DUF_6 Depleted Uranium Hexafluoride Conversion Project	**DUF6-UDS-PLN-040** **Revision 1** **August 2007**

Integrated Safety Management System Plan for Operations

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U.S. Department of Energy
Portsmouth Paducah Project Office
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Depleted Uranium Hexafluoride Conversion Project
Integrated Safety Management System
Plan for Operations, Rev. 1
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Department of Energy, PPPO	Date: 02/14/07

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DISCLAIMER

This document was prepared by Uranium Disposition Services, LLC, (UDS), under Department of Energy (DOE) Contract DE-AC05-02OR22717, and is intended for use solely in conjunction with the Depleted Uranium Hexafluoride (DUF_6) Conversion Project. The information contained herein shall not be disclosed, duplicated, or released in whole or in part for any purpose other than the DUF_6 Conversion Project without the express written consent of the U.S. Department of Energy and Uranium Disposition Services, LLC.

DUF6 CONVERSION PROJECT
INTEGRATED SAFETY MANAGEMENT SYSTEM

PROGRAM DESCRIPTION

Revision Summary

TITLE:	DOCUMENT NO:	REV:
ISMS Plan for Operations	DUF6-UDS-PLN-040	1

REVISION DESCRIPTION

Rev. 0, Issue for Project use

Rev. 1, The following sections were revised for annual update:

- Acronyms – Included EIS, FP, and PPPO
- Entire Document – minor editorial changes throughout; changed "cylinder yards" to "cylinder storage yards"; included conversion facilities operations throughout; updated implementing document references;
- Executive Summary – Included *Conversion Facilities Operations and Maintenance Plan,* DUF6-UDS-PLN-014, as a supporting document for ISMS PLN-040 and included conversion facilities in the second sentence of the paragraph.
- Also deleted the third sentence of the paragraph that stated the following: "This program description will be revised prior to operational readiness for conversion facility operations to include a matrix that addresses the integrated approach for conversion facility operation and maintenance activities."
- Introduction – Eighth paragraph – added "operations and maintenance of the conversion facilities" to the first sentence and deleted the second sentence that stated the following: "Prior to start-up of the DUF6 Conversion Facilities, the supplement will be updated to include administrative controls for their operation and maintenance."
- Section 2.1 – Included "environmental management" in second sentence. Added a second paragraph to address EMS that states:

  "UDS's ISMS program incorporates and implements an Environmental Management System (EMS) graded to the activities being performed. The EMS includes a process where a continuing cycle of planning, implementing, evaluating, and improving processes and actions are undertaken to achieve environmental goals."

- Section 2.3 – *Conduct of Operations* – Revised using verbiage found in the "Executive Summary" of DUF6-UDS-PLN-014.
- Section 2.3 – Criticality Safety – Totally revised.
- Section 2.3 – *Fire Protection* – Totally revised.
- Section 2.3 – *Nuclear and Facility Safety* – Included a new paragraph that discusses DUF6-UDS-PLN-037.
- Section 2.3 – *Standards Selection and Maintenance* – Changed from: "When a change is identified in a DOE Order/Directive, a federal or state law and regulation, or a permit the UDS compliance officer will notify the applicable manager(s) to evaluate the applicability and/or impact of the change. If there is applicability and/or impact DOE will be notified as per the contract. Upon DOE concurrence, the WSS set will be revised and changes will be proposed to the contract accordingly."

  To: "When UDS is notified by the DOE contracting officer of a new or revised DOE Order or Directive that may be applicable to the UDS contract, UDS will review the change for impact as required in the UDS contract. DOE will be advised of the results of this review within the prescribed time limit. DOE will then determine if and when the contract will be modified to incorporate the change. "
- Section 2.3 – *Training and Qualification* – Changed from *Training and Qualification,* UDS-QAP-002, to *Training Plan,* DUF6-UDS-PLN-027.
- Section 3.2 – Updated list of personnel key to implementation of the ISMS Plan.
- Figure 3-1 – Updated organization chart
- Figure 4.2 – Included "conversion operations" in the title of the figure and updated implementing documents.

- Section 4.5 – *ISMS Performance Measures* – Revised and changed from:
    - Total Recordable Cases Rate
    - Occupational Safety and Health Cost Index
    - Reportable Occurrences of Releases to the Environment
    - Work Radiation Dose
    - Estimated Radiation Doses to the Public

  Performance goals associated with the metrics identified above and others will be set annually and will be approved by DOE.

  UDS will track, trend, and report additional lagging and leading performance measures to ensure that safety performance is properly measured. These additional measures shall be approved annually by DOE and may vary from year to year based on the scope of anticipated project activities."

  To:

  "ISMS performance metrics will be established at the beginning of each fiscal year. UDS will submit proposed metrics following submittal of the annual ISMS declaration submittal. Once performance metrics are approved by DOE they will be reported in the monthly project report and discussed, as necessary, at the monthly status meeting. Metrics will include, at a minimum:

  - Total recordable and lost time case rates
  - Summary of ORPS reportable events by category
  - Worker and public exposure rates
  - Worker Radiation Dose
  - Estimated Radiation Doses to the Public
  - Environmental

  UDS will track, trend, and report additional lagging and leading performance measures to ensure that safety performance is properly measured. These additional measures shall be approved annually by DOE and may vary from year to year based on the scope of anticipated project Section 5 – second paragraph – last sentence – Included "The quality assurance manager has the primary responsibility for the implementation of independent assessments as identified in UDS-U-QAP-0012, *Independent Assessments*. "

- Section 5 – Identified the quality assurance manager as the individual responsible for oversight of implementation of independence assessments and the compliance manager as the individual responsible for implementation of management assessments, and the oversight of implementation of analyzing and trending data.

  Added a new fifth paragraph that states: "The UDS ES&H/security manager and the UDS compliance manager have the primary responsibility for the development, maintenance, and implementation for UDS procedures that tract the implementation

of the feedback and continuous improvement process. These procedures include UDS-U-QAP-0005, *Condition Reporting;* UDS-U-QAP-0013, *Management Assessments;* UDS-U-QAP-0017, *Lessons Learned*; and UDS-U-QAP-0019, *Trending*."

- Section 6.1.1 – Included DOE O 414.1C, DOE O 450.1, and 10 CFR 851 as "Requirement References"
- Section 6.1.2 – Updated source reference list.
- Supplement A – Updated ISMS implementing document matrix.
- Supplement B – Included revised ES&H Policy

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List of Supplements

ACRONYMS

AHA	Activity Hazard Analysis
ALARA	As Low As Reasonably Achievable
CDR	Conceptual Design Report
CFR	Code of Federal Regulations
DEAR	Department of Energy Acquisition Regulation
DOE	Department of Energy
DUF_6	Depleted Uranium Hexafluoride
DSA	Documented Safety Analyses
EIS	Environmental Impact Statement
EMS	Environmental Management System
ES&H	Environment, Safety and Health
FDSA	Final Documented Safety Analyses
FP	Fire Protection
ISMS	Integrated Safety Management System
O	Order
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
P	Policy
PHAR	Preliminary Hazards Analysis Report
PDSA	Preliminary Documented Safety Analyses
PMP	Project Management Plan
PQAP	Project Quality Assurance Plan
PPPO	Portsmouth Paducah Project Office
QA	Quality Assurance
SRD	System Requirements Documents
SOW	Scope of Work
TSR	Technical Safety Requirements
UDS	Uranium Disposition Services, LLC
WSS	Work Smart Standards

Executive Summary

This version of the *Integrated Safety Management System Plan for Operations* activities (hereafter entitled ISMS program description) reflects the Uranium Disposition Services, LLC, (UDS) approach for integrating safety into all aspects of work planning and execution for operations and maintenance activities of the Depleted Uranium Hexafluoride (DUF_6) Conversion Project (hereafter referred to as the Project). For the purposes of this program description, safety encompasses the environment, including pollution prevention and waste minimization, safety, health, and radiation protection. This program description has been developed in compliance with the contract; 10 Code of Federal Regulations (CFR) 830 *Nuclear Safety Management*, Subpart A - *Quality Assurance Requirements*; 48 CFR 970.5223-1, *Integration of environment, safety, and health into work planning and execution;* Department of Energy (DOE) Order 450.1 *Environmental Protection Program*; and the *Project Management Plan* (PMP), DUF6-UDS-PLN-001.

Key to implementation of this program description is the understanding that this is an integration document that includes both cylinder storage yards and conversion facilities operations and maintenance (O&M) activities. The Project's ISMS program for the operations and maintenance phase is implemented primarily through the management systems defined in the *Project Quality Assurance Plan* (PQAP), DUF6-UDS-PLN-003. Consistent with 10 CFR 830, Subpart A, the PQAP integrates the ten quality assurance criteria with the five core functions and eight guiding principles of ISMS as defined in this program description, thereby ensuring a single integrated management system for the Project. To ensure ISMS implementation and continuous improvement, assessments will be performed in accordance with the PQAP and its implementing assessment procedures.

The Project's ISMS program is also supported by other key Project specific documents (e.g., the *Project Management Plan,* DUF6-UDS-PLN-001; the *Regulatory and Permitting Management Plan,* DUF6-UDS-PLN-002; the *Cylinder Yard Surveillance and Maintenance Plan,* DUF6-UDS-PLN-011; the *Conversion Facilities Operations and Maintenance Plan ,* DUF6-UDS-PLN-014; the *Document Management Plan,* DUF6-UDS-PLN-015; the *Safety Basis Documentation Plan*, DUF6-UDS-PLN-029; the *Safety Management Program Descriptions for the Uranium Disposition Services, LLC, DUF6 Conversion Project,* DUF6-UDS-PLN-037; the *Operational Environmental Management Plan,* DUF6-UDS-PLN-053; the *Worker Safety and Health Program,* DUF6-UDS-PLN-074; and the implementing procedures/documents for these and other various supporting plans). As a supplement to this program description, a matrix that demonstrates the Project's integration approach is included for the cylinder yards and conversion facilities operations and maintenance. This program description will be revised prior to operational readiness for conversion facility operations to include a matrix that addresses the integrated approach for conversion facility operation and maintenance activities.

1 INTRODUCTION

The *Integrated Safety Management System Plan for Operations* hereafter entitled Integrated Safety Management System (ISMS) program description reflects the Project's approach to the integration of environmental protection and worker health and safety into all aspects of work planning, performance, and continuous improvement.

Because of the complexity of design and construction activities and the diversity of the activities associated with the operation of the cylinder storage yards and conversion facility, a separate ISMS program description *Integrated Safety Management System Plan for Design and Construction* DUF6-UDS-PLN-006 was developed to address and provide an ISMS during all of the design and construction activities of the project. Development of this second ISMS program description ensures a streamlined approach and facilitates implementation of the Project's ISMS for cylinder yard and conversion facility operations.

For the purposes of this program description, safety encompasses the environment (including pollution prevention and waste minimization), safety, health, and radiation protection. Other programs where the elements of the ISMS have been utilized in their development or otherwise support the ISMS include engineering, procurement, fire protection, emergency preparedness, maintenance, training, and chemical safety. This program description has also been developed to 1.) demonstrate compliance with the contract; applicable requirements of 10 Code of Federal Regulations (CFR) 830 *Nuclear Safety Management*, Subpart A - *Quality Assurance Requirements*; 48 CFR 970.5223-1, *Integration of environment, safety, and health into work planning and execution*; DOE O 450.1 *Environmental Protection Program*; and the *Project Management Plan* (PMP), DUF6-UDS-PLN-001, and to 2.) identify how the ISMS process is integrated into the operation and maintenance activities of the Project.

This program description references the Project's quality assurance (QA) program approach to implementing a strong environmental, safety and health (ES&H) posture within the requirements of the Project and without compromise to ES&H objectives. Consistent with 10 CFR 830, Subpart A, the *Project Quality Assurance Plan* (PQAP), DUF6-UDS-PLN-003 integrates the ten QA criteria with the five core functions and eight guiding principles of ISMS as defined in this program description. In addition, the components of the Environmental Protection Program as described in Department of Energy (DOE) Order (O) 450.1 *Environmental Protection Program* is integrated into the ISMS program description, thereby ensuring a single integrated management system for the Project. The Project's ISMS program also relies on other key Project-specific documents (e.g., the PMP and implementing procedures for various supporting plans). A matrix that specifically demonstrates the Project's integrated approach is attached as a supplement to this program description.

Implementation of the PQAP is fully consistent with and supportive of the principles and functions of the ISMS. The expectation in the PQAP is that all work meets established

standards and requirements allowing work to be completed safely within established controls. The PQAP also describes processes that are utilized to seek continuous improvements by identifying and correcting deficiencies and preventing their recurrence. Subcontractors performing work at the sites to support cylinder yard and conversion facility operations will also utilize this ISMS program description and its implementing documents. (Subcontractors may utilize equivalent implementing documents as approved by UDS; however, the documents must implement the requirements of this ISMS program description.) The PQAP will provide the overall assessment authority to assure that Uranium Disposition Services, LLC, (UDS) its member organizations, and subcontractors comply with the requirements of this ISMS program description.

One of the purposes of this document is to assure that an adequate ISMS process has been identified. This purpose is accomplished by identifying the relationship to the PQAP and by providing a mapping of the requirements of the ISMS five core functions to the specific UDS control mechanisms (i.e., plans, procedures, etc.) that implement the requirements of this document. To facilitate an understanding of the context within these control mechanisms, descriptions of processes and their inter-relationships (e.g., the design process and the Preliminary Hazard Analysis Report (PHAR)/Preliminary Documented Safety Analyses (PDSA)/Documented Safety Analysis (DSA) are also described.

This program description facilitates an understanding by project personnel of the ISMS process and provides a model from which improvements to the overall ISMS process are to be discussed and considered.

Supplement A identifies the administrative controls (primarily plans and procedures) for implementing the systems and processes for operations and maintenance of the conversion facilities and the surveillance and maintenance of the cylinder storage yards. Additionally, the supplement serves as a cross-reference between the applicable administrative controls used by the Project and the five DOE ISMS core functions as discussed in this program description.

The program description is organized as follows:

The **OVERVIEW** section introduces the Project's related commitments and policies and describes the identification of applicable requirements.

The **ROLES AND RESPONSIBILITIES** section introduces specifics related to the organization and roles and responsibilities of management, workers, and subcontractors.

The **INTEGRATED SAFETY MANAGEMENT SYSTEM OVERVIEW** section describes how the five core functions and eight guiding principles of DOE ISMS are addressed for the Project through programs and processes.

The **MAINTAINING AND IMPROVING ISMS** section describes the Project's approach to ensuring that work continues to be conducted efficiently and in a manner that protects the health and safety of the worker.

SUPPLEMENT A includes an implementation matrix that correlates the applicable implementation mechanisms for operations and maintenance of the conversion facilities and cylinder storage yards (e.g., practices, procedures, and subcontract clauses) with the five DOE ISMS core functions.

SUPPLEMENT B includes the company's policy statement signed by the UDS president/project manager.

Implementation of the UDS ISMS program description requires that the organization integrate safety into all aspects of work planning and execution, using the guiding principles and core functions discussed in Section 4. Integration means that all systems and programs are designed to fit together to permit safe and efficient performance of work.

END OF SECTION

2 SAFETY MANAGEMENT SYSTEM COMMITMENT AND CONTROLS OVERVIEW

The following subsections and referenced supplements provide an overview of the UDS commitment and policy related to the Project's ISMS that promotes the company's core values, the UDS "Safety First" culture, and "zero accident" commitment.

2.1 ENVIRONMENTAL, SAFETY, AND HEALTH POLICY

UDS has established an ISMS program that promotes the company's core values. ISMS and our safety culture provide environmental protection, worker safety, public health protection, feedback and improvement, pollution prevention, waste minimization, and quality assurance programs. The objective of UDS's ISMS is to integrate, systematically, safety, health, environmental management, pollution prevention, waste minimization, and QA into management and work practices at all levels so that work is performed safely and in a compliant manner that is protective of the worker, public, and environment and is the basis for the UDS's "Safety First" culture. See Supplement B *Environmental, Safety, and Health Policy.*

UDS's ISMS program incorporates and implements an Environmental Management System (EMS) graded to the activities being performed. The EMS includes a process where a continuing cycle of planning, implementing, evaluating, and improving processes and actions are undertaken to achieve environmental goals.

2.2 CORPORATE ENVIRONMENTAL, SAFETY, AND HEALTH COMMITMENT

Leadership related to safety starts at the top level of management. The UDS Board of Governors, project manager, and senior managers are all responsible for protecting the environment; the safety and health of every worker in the organization, including those employed by our subcontractors; visitors; and the public. Management's commitment to these responsibilities sets and allows the flow down of these standards to all employees, subcontractors, and their employees. Objectives related to the Project commitment are provided in the following paragraphs.

Safety and Health. UDS protects the safety and health of workers and the public by identifying, analyzing, and mitigating hazards and utilizing sound work practices. Safety is not compromised for the sake of project objectives (cost and schedule). All of UDS's employees and subcontractors are held responsible for complying with requirements during all work activities.

Environmental Protection. UDS manages the Project in a manner that exemplifies good environmental stewardship using pollution prevention, waste minimization, DOE environmental management system (EMS), and as low as reasonably achievable (ALARA) concepts. Implementation of this objective facilitates the Project's efforts to

implement all five-core functions but, most specifically, to "Perform Work within Controls."

Facility Safety Programs. For operations and maintenance, controls are developed to ensure that no undue risk of accidents occurs that could adversely affect the public, worker, or environment. Controls are established in accordance with a hazards-based graded approach, and supplemented with a defense-in-depth concept to prevent accidents as well as to limit consequences should accidents occur. Effective implementation of this objective supports implementation of the second core function to "Analyze the Hazards" and core function three "Develop and Implement Controls."

Safety Management System Integration with Quality Assurance. Effective implementation of QA requirements supports the principles and functions of ISMS. In this regard, the QA program ensures compliance with approved standards and requirements, so that the expectation for safe work within controls is met, and those workers, the environment, and the public are protected from harm. The UDS management systems assure that quality and safety requirements are properly integrated to achieve their objectives.

Pollution Prevention/Waste Minimization. UDS demonstrates its commitment to environmental protection and continuous improvement through pollution prevention and waste minimization. The program assesses planning and work activities to identify alternatives that prevent/reduce waste generation, reduce hazardous material usage, and increase resource conservation. UDS will manage the Project in a manner so that solid, hazardous, and radioactive waste generation is avoided whenever reasonable and that the amount of all waste (including non-hazardous) is minimized.

Regulatory Compliance. UDS manages the Project in a manner that ensures compliance with applicable laws, regulations, permits, and directives as identified in the Work Smart Standard (WSS) Set.

Worker Involvement. UDS manages the Project in a manner that encourages the involvement of employees in the identification and control of hazards in the workplace. Workers have the right and responsibility to express concerns about safety and to seek resolution of those concerns.

Stop Work. Work will be brought to a safe condition and/or stopped rather than continued unsafely. Individuals within the Project have the right and obligation to stop work when they believe it cannot be conducted in a safe manner, is detrimental to worker and/or public safety, or it has unacceptable impact to the environment.

"Zero Accident" Commitment. UDS is committed to zero accident performance as part of the UDS "Safety First" culture. This culture focuses not only on decreasing accidents but also on eliminating them altogether. UDS's zero accident commitment adheres to the premise that all accidents are preventable. The commitment to zero accidents starts at the top of the organization with the project manager and flows down

through all managers and employees of the organization including subcontractors. The UDS zero accident commitment creates a safe working environment that empowers employees to "take charge" of their own safety and to remove unsafe conditions/actions prior to their development. This commitment shall be institutionalized into all phases of the Project and will be documented in a UDS ES&H policy (see Supplement B).

2.3 SAFETY MANAGEMENT SYSTEMS/CONTROLS

A set of underlying management systems is integral to implement successfully any process or program. These systems provide the procedures and other management tools required to establish UDS's integrated approach to safety management.

Budget and Financial Management. UDS's Budget and Financial Management System includes these business management functions; project work breakdown structure, scope definition, performance milestones, cost estimate, budget, risk-based analysis, critical path schedule logic, project schedule, charge code structure, cost accounting, funds management, and baseline change control. These functions are integrated in the project Life Cycle Baseline and are maintained under configuration management via a joint DOE/UDS baseline change control process. The Life Cycle Baseline provides the basis for establishing annual performance based incentives and performance objectives.

Conduct of Operations. Conversion facility conduct of operations is based on well-developed industrial operations practices and DOE O 5480.19, *Conduct of Operations Requirements for DOE Facilities*. Implementation of these practices results in a high level of performance and, therefore, contributes to safe and reliable operation. The primary consideration in the conduct of operations is the health and safety of workers, the public, and protection of the environment. Conduct of operations is defined in the *Conversion Facilities Operations and Maintenance Plan,* DUF6-UDS-PLN-014. The *Conversion Facilities Operations and Maintenance Plan* describes the management methods with which the conversion facilities are operated and maintained. This plan is implemented through the use of detailed plans and procedures.

Configuration Management. Configuration management for UDS is intertwined into the company procedures. The *Configuration Management Plan*, DUF6-UDS-PLN-023, establishes expectations for configuration management for structures, systems, and components identified in associated safety basis documents as safety significant or defense in depth. Control of changes and as-found conditions is implemented through *Unreviewed Safety Questions,* UDS-U-NSP-0002*.*

Criticality Safety. Criticality safety is an integral part of the safety aspects of operations of the cylinder storage yards. Nuclear criticality is precluded in the conversion facility by minimizing the likelihood of a fissile cylinder entering to the facility. The nuclear criticality safety program is outlined in *Nuclear Criticality Safety Program*, UDS-U-NSP-0003. The procedure establishes the policy, guidelines, rules, and regulations for the Nuclear Criticality Safety Program to ensure that nuclear criticality

hazards are evaluated and nuclear criticality safety limits and controls are established and implemented to provide environmental protection, worker and public health and safety.

Emergency Management. *Paducah Emergency Management Plans*, DUF6-UDS-PLN-044; and *Portsmouth Emergency Management Plans*, DUF6-UDS-PLN-045; describe the established site-wide emergency management system and plan. The site-wide emergency management plan provides a comprehensive description of the emergency preparedness and response to operational emergencies, which may occur at the site. The administration of the site emergency management plan, as it pertains to UDS, will be identified in the *Portsmouth Emergency Protective Actions,* UDS-X-SHP-0303, and the *Paducah Emergency Protective Actions,* UDS-X-SHP-0304.

Environmental Compliance and Protection. Environmental compliance and protection is an integral element of UDS Safety Management Program. UDS's environmental management goals, roles, and responsibilities are described in the *Regulatory and Permitting Management Plan,* DUF6-UDS-PLN-002.

The Environmental Management Program is integrated into the ISMS through the following Project plans and documents:

- DUF6-UDS-PLN-002, *Regulatory and Permitting Management Plan*
- DUF6-UDS-PLN-005, *Waste Management Plan*
- DUF6-UDS-PLN-031, *Pollution Prevention and Waste Minimization Plan*
- DUF6-UDS-PLN-053, *Operational Environmental Management Plan*
- Environmental Impact Statement for the DUF_6 Conversion Project, EIS No. 040279 (Portsmouth) and EIS No. 040280 (Paducah)
- Regulatory Permits
- State Historical and Preservation Offices notifications and concurrences
- Ohio's Director's Final Findings and Orders
- Kentucky Agreed Order

Hazardous Material Protection. Hazardous material protection is implemented through the *Hazard Communication Program,* UDS-U-SHP-0601, which is established to protect human health and the environment by controlling chemical hazards. The program will apply to hazardous chemicals and materials used at the UDS-managed DOE facilities, including hazardous chemicals used and generated in the workplace, and consumer products used in quantities that exceed those of an average consumer. Procedures will be established for identifying and procuring hazardous chemicals and materials, maintaining a chemical inventory, assessing work area hazards, communication information to workers, and implementing appropriate engineering and administrative controls.

Fire Protection. Fire protection (FP) is an integral part of the safety aspects of operations of the UDS facilities. The fire protection program is outlined in *Fire Protection Program Description,* DUF6-UDS-PLN-024, which defines the scope, roles

and responsibilities, organizational structure, and requirements for implementing fire protection program activities. The program description also defines the administrative program responsibilities for ensuring that UDS maintains compliance with FP requirements when managing or overseeing subcontractors and implement the UDS FP Policy, UDS-POL-003, *Fire Protection,* and is the framework to guide UDS in systematically managing this important part of its work.

The FP Program is designed to guide UDS efforts to minimize the potential for:

- The occurrence of a fire or fire-related event
- A fire that causes an unacceptable release of hazardous or radiological material that will threaten the health and safety of employees, the public, or the environment
- Vital DOE programs suffering unacceptable interruptions as a result of fire and fire-related hazards
- Excessive property losses from a fire and fire-related events
- Critical process controls and safety systems being damaged as a result of a fire and fire related events.

Fire hazards analyses for the UDS facilities define the fire hazards associated with the facility the adequacy of designed fire protection systems and controls in reducing maximum credible and possible fire losses.

Industrial Hygiene. Policies and procedures (e.g., *Occupational Medicine*, UDS-U-SHP-0501; *Hearing Conservation Program*, UDS-U-SHP-0502; *Bloodborne Pathogens Program*, UDS-SHP-503; *Respiratory Protection/Fit Testing*, UDS-U-SHP-0504; *Exposure Assessments*, UDS-U-SHP-0505; and *Confined Space Program*, UDS-U-SHP-0512) are established to ensure hazardous operations are conducted in a manner that safeguards the health and safety of the public, on-site workers, and the environment. The various exposure hazards or workplace stresses that cause sickness, impaired health, or significant discomfort in workers can be classified as chemical, physical, biological, or ergonomic. Hazards are assessed and appropriate controls are specified such that specific hazards do not present unanalyzed risk. Hazard analyses are performed to anticipate, recognize, evaluate, and control exposure hazards or stresses arising in or from the workplace. Workers are protected form workplace hazards through the implementation of engineering controls, administrative controls, and/or personal protection equipment.

Lessons Learned. The UDS lessons learned program will be implemented in accordance with *Lessons Learned,* UDS-U-QAP-0017. The lessons learned program is integral to the Integrated Safety Management System feedback and improvement process.

Nuclear and Facility Safety. Nuclear hazard category 2 and 3 facilities will have a safety basis document prepared in accordance with a 10 CFR 830 Subpart B and a hazard analysis per DOE-STD-3009-94, *Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analysis*. As indicated in this

standard, the hazard analysis will meet the requirements for non-radiological hazard analysis required by 29 CFR 1910.119, *Process Safety Management of Highly Hazardous Chemicals* and 40 CFR 68, *Chemical Accident Prevention Provisions*. DOE-STD-1027-92 92, *Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports* will be used for guidance on facility hazard categorization.

Safety Management Program Descriptions for the Uranium Disposition Services, LLC, DUF6 Conversion Project, DUF6-UDS-PLN-037, provides descriptions of the UDS Safety Management Programs (SMPs) that collectively address the 12 SMP areas addressed in DOE-STD-3009-94. The purpose of the SMP descriptions document is to present information that is common to the UDS managed facilities and support organizations. It is intended to complement the facility-specific Documented Safety Analysis (DSAs).

For cylinder yard and conversion operations the documented safety basis is governed by the Paducah and Portsmouth Documented Safety Analysis (DSA), Technical Safety Requirements (TSR), and referenced supporting documents.

Safety basis documents are reviewed in accordance with the *Unreviewed Safety Questions*, UDS-U-NSP-0002.

Occupational Safety and Health. The UDS Occupational Safety Program establishes standards for worker safety through the implementation of industrial safety requirements contained in the Occupational Safety and Health Act (OSHA). Programs and procedures are in place to implement the requirements in these standards and to prevent or minimize injuries, illnesses, and accidental losses. *Worker Safety and Health Program,* DUF6-UDS-PLN-074, is the primary document that implements OSHA requirements.

Occurrence Reporting. The UDS occurrence-reporting program is governed by UDS-U-QAP-0016, *Occurrence Notification and Reporting*. The occurrence-reporting system requires reporting, tracking, and trending of occurrences involving industrial and/or facility safety, health, property, operations, and/or the environment.

Procedures. *Procedure System,* UDS-U-QAP-0003 provides the management controls necessary to convey and institute management policies for operations involving the safety of workers, the public, and the environment. The procedure establishes the requirements for the preparation, review, approval, issuance, and revision of implementing procedures, instructions, guidelines, and associated forms. It also provides the process for the incorporation and control of external procedures. A graded approach in the review and approval of procedural documents is used to achieve the necessary rigor for safe operations.

Quality Assurance. *Project Quality Assurance Plan*, DUF6-UDS-PLN-003, describes the UDS QA Program and its organization. It provides the primary requirements for the integration of quality functions into all aspects of UDS activities.

Radiation Protection. The UDS Radiation Protection Program (RPP) is defined in *Radiation Protection Program,* DUF6-UDS-PLN-007. The purpose of the RPP is to minimize exposure to ionizing radiation for employees, the public and the environment to levels that are ALARA and to manage the Project in a manner that ensures that radiation exposure of the workforce, the environment, and the public is controlled well below regulatory limits. Radiation exposures to the workforce, the environment, and the public shall be maintained ALARA. Implementation of this objective facilitates the Project's efforts to implement all five-core functions but, most specifically, the fourth core function to "Perform Work within Controls".

Radioactive and Hazardous Waste Management. The UDS Radioactive and Hazardous Waste Management Program is described in *Waste Management Plan,* DUF6-UDS-PLN-005. The UDS program establishes processes to characterize, package, control radiological and hazardous waste, and protect all receptors. Waste management policies, plans and/or procedures will be established to address (1) waste stream identification/profiling; (2) waste information reporting; (3) waste acceptance criteria; (4) waste characterization; segregation, and recycling; and (5) onsite and offsite treatment, storage, and disposal.

Records Managements. The UDS records management systems identifies the current revision of controlled documents and provides controlled copies of approved documents to those performing work. Documents are prepared, reviewed, and revised in accordance with *Document Management Plan,* DUF6-UDS-PLN-015; *Document Control*, UDS-U-DMP-0001; and *Records Management,* UDS-U-DMP-0002.

Standards Selection and Maintenance. A key element of integrated safety management is the selection of standards and maintenance of the standard set. This set is the end result of a process for reviewing laws, regulations, and standards to determine applicability to the scope of project work. During the operation and maintenance phase of the Project, the DOE directives identified in Attachment N of the contract as well as applicable federal, state, and local rules and regulations provide the requirements function for the Project. Attachment N, *List of Applicable DOE Directives,* to DOE contract DE-AC05-02OR22717 has been revised to include the negotiated set of WSS. The WSS set includes two parts. The first part includes the appropriate state and federal regulations and associated permits and authorizations. The second part includes WSSs related to DOE Directives. These standards have been identified by 1) analysis of the existing set of WSS applicable to operation of the cylinder storage yards and 2) analysis by the WSS identification team. The *Work Smart Standards Final Report,* DUF6-G-RGN-006, identifies the negotiated set of WSS, the applicability of the set, and describes the Necessary and Sufficient Work Smart process utilized to develop the WSS set.

Periodically, the UDS compliance department monitors the DOE online database system "Directives Homepage – Alerts" for changes (additions/deletions) in DOE Orders/Directives and federal regulations. In addition, state laws and regulations are also be monitored for changes.

When UDS is notified by the DOE contracting officer of a new or revised DOE Order or Directive that may be applicable to the UDS contract, UDS will review the change for impact as required in the UDS contract. DOE will be advised of the results of this review within the prescribed time limit. DOE will then determine if and when the contract will be modified to incorporate the change.

Tailoring. Operation and maintenance of the DUF_6 Conversion Facilities can range in complexity and hazard potential from high hazard tasks, such as in hydrogen fluoride recovery and loading, too much simpler tasks, such as performing cylinder surveillance. Therefore, implementation of the ISMS program requires tailoring of the safety controls to fit the hazards and the work. Through tailoring existing guidance and safety management processes are selectively applied to planned work activities to meet applicable, enforceable requirements while adequately protecting health, safety, and the environment. Subcontractors are provided clear direction on the tailoring process through contractually binding documentation.

The DOE Acquisition Regulation (DEAR) environmental, safety, and health clause [48 CFR 970.5223-1(b)(6)] and the DOE *Safety Management System Policy* [DOE Policy (P) 450.4] state explicitly that administrative and engineering controls to prevent and mitigate hazards shall be tailored to the work and associated hazards. To meet these requirements, UDS personnel, and subcontractors at all levels tailor implementation of their ISMS processes. Established safety management programs for operations and maintenance must deal effectively with the full spectrum of work types and work activities. These safety management systems allow flexibility in planning, analysis, and work preparation, which, in turn, includes tailoring the work and hazard controls to the work at hand. As a result, implementation of the Project's ISMS program description ensures high-quality work and compliance with predetermined performance expectations.

Training and Qualification. The UDS training and qualification process assures that needed skills for the workforce are identified and developed, and documents knowledge, experience, abilities, and competencies of the workforce for key positions requiring qualification. This process is described in *Training Plan*, DUF6-UDS-PLN-027. This plan describes how UDS will implement the requirements of DOE Order 5480.20A*, Selection, Training and Qualification Requirements for Personnel in DOE Nuclear Facilities.* The training and qualification requirements in this program are developed, maintained, and implemented using a graded approach in a standardized, comprehensive manner utilizing the systematic approach to training.

Work Control. The work control system, as described in *Control of Work*, UDS-U-GFP-0108, encourages the involvement of employees in the identification and control of hazards in the workplace. Workers have the right and responsibility as described in *Safety Concerns*, UDS-SHP-101, to express concerns about safety and to seek resolution of those concerns and they have the right and obligation to stop work when they believe it cannot be conducted in a safe manner, is detrimental to worker and/or public safety, or has an unacceptable impact to the environment.

END OF SECTION

3 ROLES AND RESPONSIBILITIES

Two of the eight principles for an effective ISMS program address roles and responsibilities that are specifically institutionalized as follows through the implementation of DOE P 450.4, *Safety Management System Policy*:

Principle 1, Line Management Responsible for Safety. Line management is directly responsible for the protection of the public, the workers, and the environment.

Principle 2, Clear Roles and Responsibilities. Clear and unambiguous lines of authority and responsibility for ensuring safety shall be established at all organizational levels within DOE and its contractor organizations.

Clear definitions of authorities, roles, and responsibilities related to implementation of the UDS ISMS program are defined in the following subsections. First, the UDS organizational structure is defined, and then roles and responsibilities are addressed for DOE and UDS management, employees, and subcontractors. Additional information on the Project's approach for implementing the established ISMS principles can be found in Section 4.0, "Integrated Safety Management System Overview."

3.1 DEPARTMENT OF ENERGY

DOE roles and responsibilities related to implementation of an ISMS program are clearly defined in DOE M 411.1-1C*, Safety Management Functions, Responsibilities, and Authorities Manual.* Of particular importance in the implementation of the Project's ISMS program description are the responsibilities of the contracting officer's representative and the project manager. Among these are defining a budget (scope) for the Project, providing continuous effective oversight (feedback), and annually reviewing and, as necessary, approving the ISMS program description and related performance goals and matrices.

3.2 UDS ORGANIZATIONAL STRUCTURE

The organizational structure of the Project is established in the PMP*,* DUF6-UDS-PLN-001. An abbreviated, plan-specific version of the basic organizational structure is shown in Figures 3-1 *UDS Organization Structure*. These organizational structures have been established to ensure that roles, responsibilities, and reporting relationships are clearly recognized and understood including those associated with the independence of the Project's ES&H/security manager.

For the purpose of this program description, line management includes the UDS project manager's direct reports (i.e., senior managers), middle managers, and front-line supervision. Management also includes the managers of Project subcontractors and subcontractors working onsite at DOE facilities/properties.

As stated, one of the eight guiding principles in implementation of an ISMS program description is line management responsibility for safety. The project manager, with the support of the ES&H/security manager, and his/her direct reports is responsible for implementing an effective safety program. Responsibilities of these positions are described in further detail in other project plans such as *Project Management Plan,* DUF6-UDS-PLN-001*; Regulatory and Permitting Management Plan,* DUF6-UDS-PLN-002; *Project Quality Assurance Plan,* DUF6-UDS-PLN-003*; Waste Management Plan,* DUF6-UDS-PLN-005*; Cylinder Surveillance and Maintenance Plan,* DUF6-UDS-PLN-011*; Conversion Facilities Operations and Maintenance Plan,* DUF6-UDS-PLN-014*; Pollution Prevention and Waste Minimization Plan,* DUF6-UDS-PLN-031; *Safety Management Program Descriptions,* DUF6-UDS-PLN-037; *Worker Safety and Health Program,* DUF6-UDS-PLN-074*; HR Policy Manual,* UDS-HRP-001; and the various implementing procedures/documents.

Other management personnel that are key to the implementation of the ISMS program include the quality assurance manager, operations deputy project manager, plant managers, compliance manager, nuclear safety manager, waste disposition manager, human resource manager, finance manager, and contracts/procurement manager. Roles and responsibilities for these positions are further defined in Project plans and implementing procedures as appropriate. Additionally, position descriptions define authority and responsibility for management and supervisory personnel.

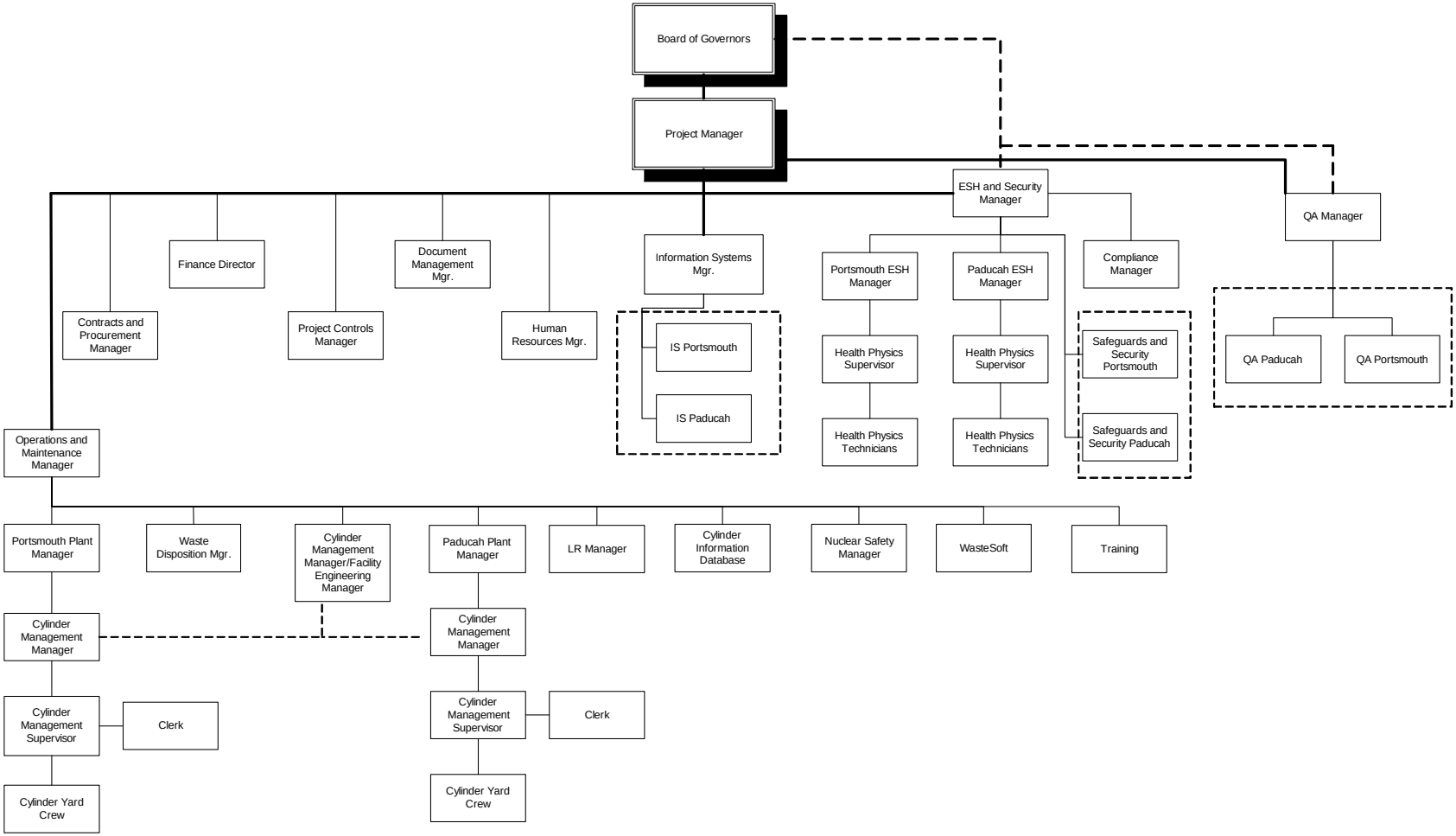


Figure 3-1. UDS Organizational Structure

3.3 WORKERS

All workers associated with the UDS project team are integral to the successful implementation of the defined ISMS program. Most specifically, it is at the worker level that core function Number 4, "Perform Work within Controls" is accomplished. Workers are personally involved in the ISMS process through the following:

- Being adequately trained and qualified
- Identifying workplace hazards
- Participating in work control document and procedure development and maintenance
- Following administrative controls (procedures)
- Providing feedback including lessons learned
- Participating in incident investigations and self-assessments.

3.4 SUBCONTRACTORS

Throughout the life of the Project, UDS will manage subcontractors. These subcontractors function within the UDS ISMS structure. Subcontractor roles and responsibilities related to the implementation of ISMS are defined in subcontract documentation as well as subcontract submittals that are reviewed and approved by UDS prior to conducting work. UDS prepared subcontract documentation, including requests for proposals, clearly state the Project's expectations related to ES&H performance and ISMS program implementation.

Subcontractors are pre-qualified for both safety and quality prior to bidding on work performed at the DUF_6 Conversion Project sites. This ensures that the subcontractors bidding the work have a history of satisfactory safety performance and that they are capable of performing the scope of work in a quality manner. Subcontractors performing work at the sites will utilize this ISMS program description and its implementing documents. (Subcontractors may utilize equivalent implementing documents; however, the documents must implement the requirements of this ISMS program description.) The flow down of requirements is performed through subcontractor procurement activities. Subcontractors must ensure that their employees are competent to perform with the task assigned, received General Employee Training, new hire orientation, and adequate task/hazard specific training. The performance of the subcontractor will be evaluated by UDS performing assessments in accordance with the PQAP to ensure ISMS implementation.

Required subcontractor submittals are reviewed to ensure that the subcontractor clearly understands the safety performance objectives and has in place the administrative process necessary to implement an effective program. Many of the roles and responsibilities identified for UDS personnel along with other UDS required administrative controls (e.g., lockout/tagout, confined space entry, hot work, and

excavation/penetrations) will also be applicable and utilized by subcontracted personnel.

END OF SECTION

4 INTEGRATED SAFETY MANAGEMENT SYSTEM OVERVIEW

The DOE *Safety Management System Policy*, DOE P 450.4, identifies the following six primary components of ISMS:

- Objective
- Principles
- Functions
- Mechanisms
- Responsibilities
- Implementation

The first three components are described in detail in the DOE policy. The last three are unique to each DOE facility contractor and are tailored by each according to the contractor's mission and organizational structure. This system description is the high-level description of the UDS ISMS that discusses the mechanisms, responsibilities, and implementation specific to the DUF_6 Conversion Facilities operations at the Paducah and Portsmouth sites.

Objective

The objective of ISMS is to provide a safe workplace and to perform work safely while protecting the worker, the public, and the environment. The *Integrated Safety Management System Description for Operations*, DUF6-UDS-PLN-040, defines implementation of ISMS by UDS.

Guiding Principles

The following outlines the seven guiding principles of ISMS as established by DOE P 450.4. UDS has also established guiding principle number eight (worker involvement), which is imperative to UDS ISMS implementation strategy success. The UDS core mechanism for implementation is identified for each principle.

1. Line Management Responsibility for Safety

Line management is directly responsible for the protection of the public, the workers, and the environment. As a complement to line management, the DOE Office of Environment, Safety, and Health provides safety policy, enforcement, and independent oversight functions. This document (DUF6-UDS-PLN-040) clearly defines that line management is responsible and accountable for safety of all activities performed within their facilities or organizations. To ensure that line management understands its responsibility to safety, the identification of its responsibility for implementing the requirements of this document, and to ensure that work is performed safely is included in their position descriptions and each line manager is held accountable for the Project's safety performance through their performance review. The concept is further enforced in lower-tier program procedures.

2. Clear Roles and Responsibilities

Clear and unambiguous lines of authority and responsibility for ensuring safety shall be established and maintained at all organized levels. UDS qualification and training procedures define the process used to identify key roles and responsibilities and associated training requirements for UDS personnel. Policies, programs, and procedures identify specific roles and responsibilities for the safe execution of work.

3. Competence Commensurate with Responsibilities

Personnel shall possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities. UDS qualification and training procedures define the process for training and qualifying UDS personnel.

4. Balanced Priorities

Resources shall be effectively allocated to address safety, programmatic, and operational considerations. Protecting the public, workers, and the environment shall be a priority whenever activities are planned and performed. The UDS *Project Management Plan,* DUF6-UDS-PLN-001, defines the budgetary process and controls for assuring that protecting the public, the workers, and the environment is a priority when planning and addressing changes to the scope, schedule or budget.

5. Identification of Safety Standards and Requirements.

Before work is performed, the associated hazards shall be evaluated and an agreed-upon set of safety standards and requirements shall be established which, when properly implemented, will provide adequate assurance that the public, workers, and the environment are protected from adverse consequences. UDS and DOE have established and agreed to a set of standards and requirements and are identified as the Project's set of WSS as included in Attachment N of the contract. The established WSS set will be kept up to date to reflect the current scope of work, hazards, and expectations for the Project.

6. Engineered and Hazard Controls Tailored to Function/Work Being Designed or Performed

Administrative and engineering controls that are designed to prevent and mitigate hazards shall be tailored to the function of work being performed and the associated hazards. Facility hazard categorization was performed in accordance with DOE-STD-1027-92. The DSA defines the requirements that need to be implemented to maintain the safety envelope of the conversion facilities. The DSA, TSR, *Unreviewed Safety Questions* procedure*,* and work control requirements assure that hazards controls are tailored to the work being performed at the activity level.

7. Approval to Proceed/Work Authorization

The conditions and requirements to be satisfied for operations to be initiated and conducted are clearly established and agreed-upon. The processes for readiness reviews and other contractual operational transitions will be defined in UDS Readiness Review for Nuclear Category 2 and 3 Facilities procedure and the *Cylinder Management Transition Plan*.

8. Worker Involvement

Woven into the seven principles of ISMS is the need for worker involvement in all of the five core functions. UDS procedures require UDS and subcontractor worker involvement, when appropriate, in job planning, hazard identification, pre- and post-job briefings, assessments, safety meetings, incident investigations, and procedure development.

9. Functions

The focus of the UDS ISMS is to integrate systematically ES&H controls into management and work practices. In managing the contract, UDS implements five safety management functions:

- Define the Scope of Work
- Analyze the Hazards
- Develop and Implement Hazard Controls
- Perform Work within Controls
- Provide Feedback and Continuous Improvement

The following sections address each of the five safety management functions and describe UDS's method for applying them in our work. The guiding principles are evident throughout the sections. Figures 4-1 and 4-2 graphically illustrate the UDS approach to addressing the five core functions of ISMS.

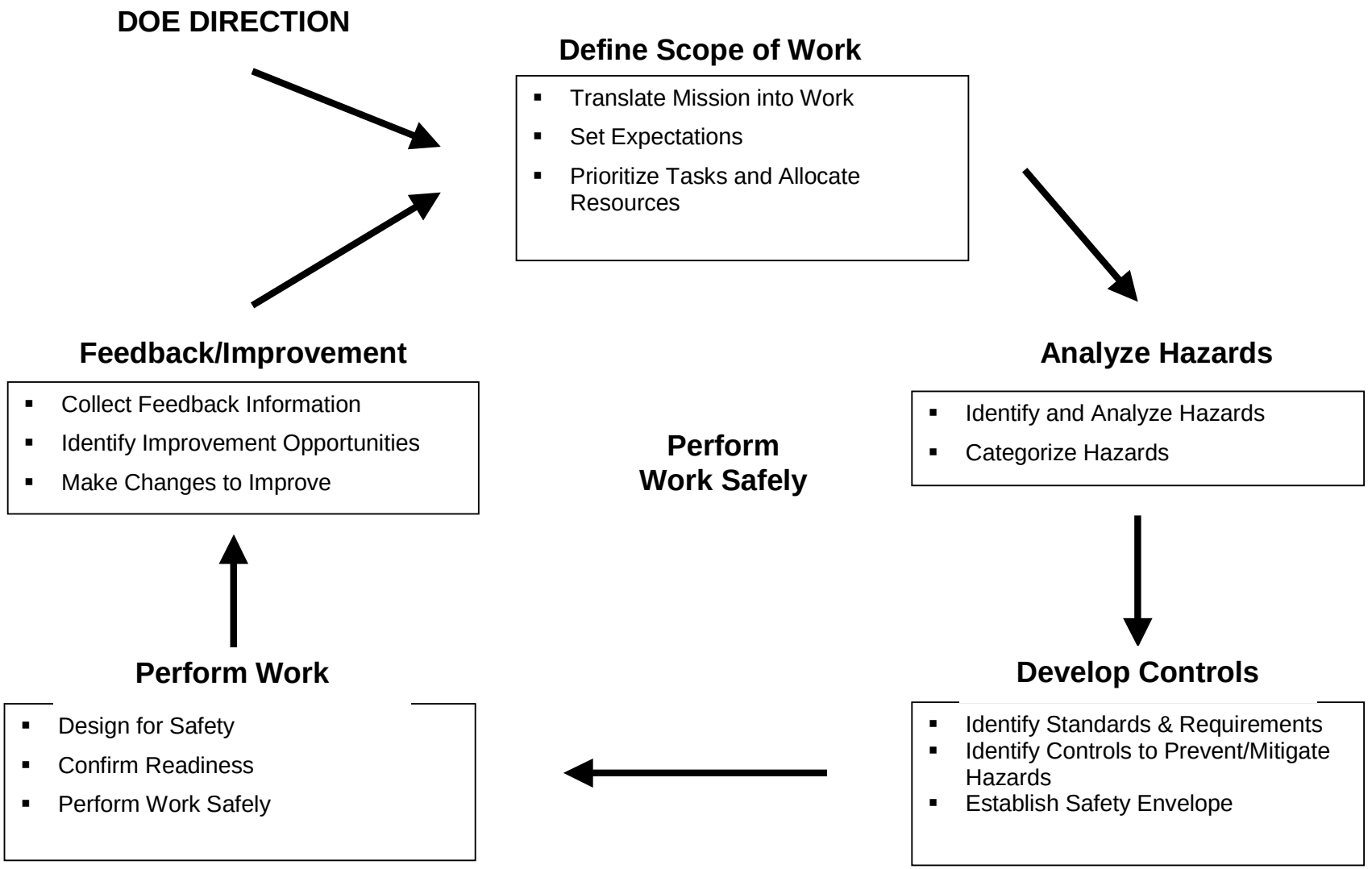


Figure 4-1. Implementation Elements of the Five Core Functions.

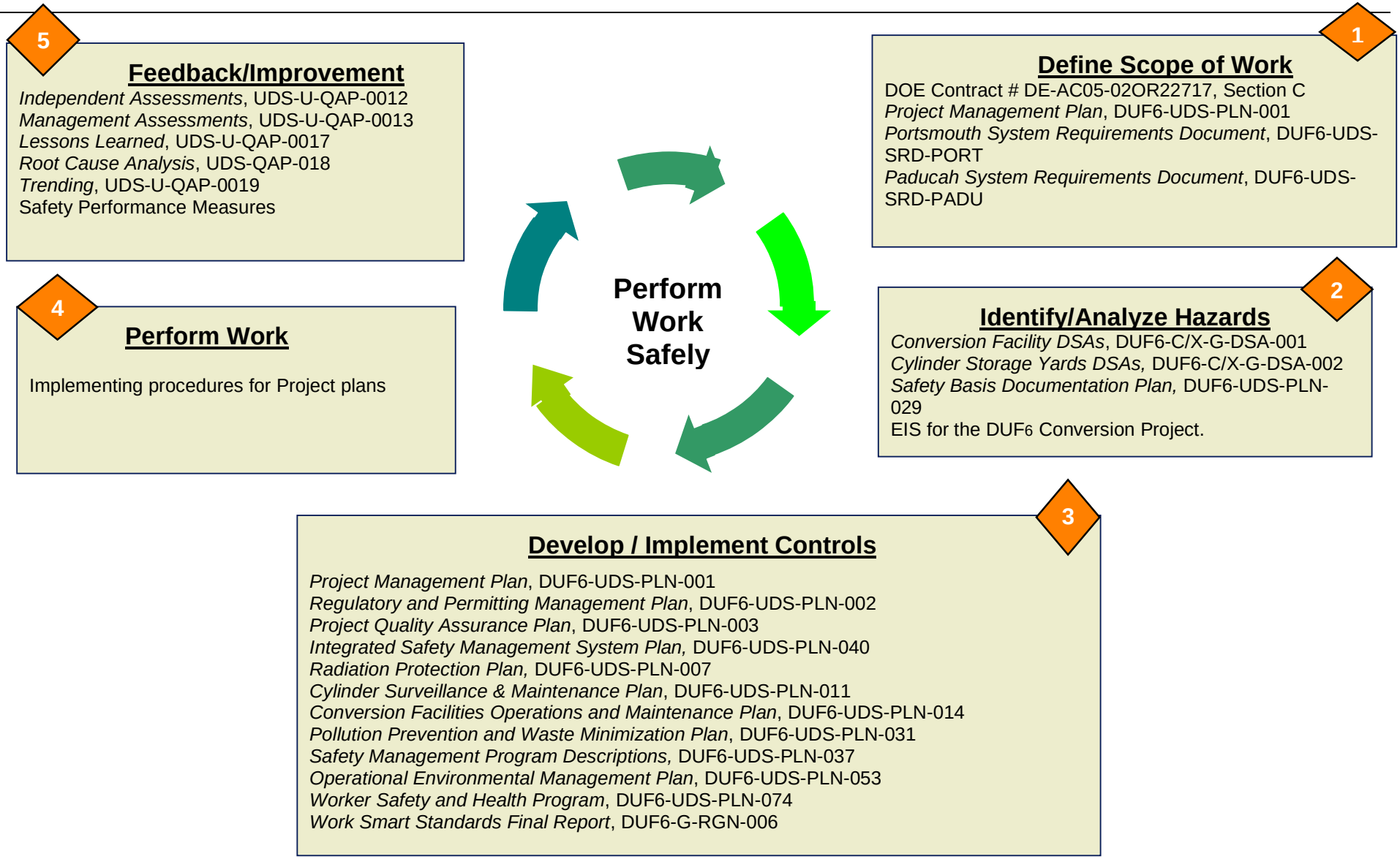


Figure 4-2 ISMS Implementation for Operations and Maintenance DUF6 Conversion Project

4.1 DEFINE THE SCOPE OF WORK

The first step in the UDS ISMS process is defining the work scope. Definition of the scope of work (SOW) begins with DOE's Project mission objectives as defined in the contract and life cycle baseline documents. The Project then tailors the tasks to satisfy mission objectives and develops the information into an approved work breakdown structure that supports its management.

Set Expectations

Performance and contractual metrics are established and agreed to with DOE as the mechanism for measuring the accomplishment of specific contract objectives. These metrics are based upon the approved life-cycle baseline. The expectation that work be performed safely and in compliance with contract requirements is also clearly established. Project activities through design, construction and operations have been identified, scheduled, and are tied to project goals. Completing each task in a safe and environmentally sound manner helps ensure that schedules are met. Performance, schedule, ES&H, and quality expectations are communicated through the project organizations to all employees, and pollution prevention and waste minimization expectations and opportunities have been discussed in the planning phase of the project. The ISMS Annual Report provides status of ISMS implementation (based on existing performance expectations), improvements to ISMS, and any changes to ISMS documents or related processes.

During the design phase, external constraints, such as laws, rules, codes, standards, regulations, and Attachment N of the contract, are examined for their applicability. Relevant criteria and requirements (functional and performance) are extracted and entered into the System Requirements Documents (SRD) that identify the project baseline mission milestones, requirements and expectations. These SRD documents are shown under Figure 4.2 above and are noted in Supplement A.

Prioritize Tasks and Allocate Resources

UDS and DOE have established mission scope, cost, and schedule baselines that have been used to establish the project life cycle budget and operational targets. As program or project conditions emerge, changes from the original baseline plan may be required due to a variety of reasons. UDS uses a baseline change control process to assure that changes in priorities, scope, cost, and schedule are appropriately reviewed and approved. This process is described in the UDS baseline change control procedure.

4.2 ANALYZE THE HAZARDS

Standards for mitigation of identified hazards are selected and established as contractual requirements through the development of project specific work smart standards. These standards provide the basis for work control documents used to execute the safe conduct of work activities. Development of the project work smart standard set is discussed in further detail below.

The analysis of hazards addresses potential risks and vulnerabilities from credible accident scenarios at the facility level in the facility safety basis documents developed in accordance with DOE-STD-3009-94 *Preparation Guide for US Department of Energy Nonreactor Nuclear Facility Documented Safety Analysis*. Within this function, potential hazards are identified and analyzed for the defined work scope to assure that appropriate measures are taken to prevent or mitigate potential exposure to the hazards. The actual mechanism for this function varies depending on the phase of the Project. During the design phase, a detailed analysis of facility systems and components will have been conducted (e.g., DSA, TSR, Fire Hazard Analysis, ALARA reviews). Prior to operation and maintenance (O&M), each system or component is further defined to identify the required work steps and to analyze those steps to ensure the identification of potential hazards and, ultimately, the appropriate hazard controls for each.

For subcontracted work, discrete subcontract packages are developed to facilitate the definition of work steps. Each subcontractor will then be required to further define hazards and to develop appropriate hazard controls. Work hazards will be defined and analyzed through the development of Activity Hazard Analyzes (AHAs) and hazard specific permits.

For routine and non-routine operating and maintenance activities, hazard identification, and work control will be performed utilizing a work control process procedure.

Categorize Hazards

Categorization of nuclear facilities was performed in accordance with the requirements of DOE-STD-1027-92, *Hazard Categorization and Accident Analysis Techniques*.

4.3 DEVELOP AND IMPLEMENT HAZARD CONTROLS

Once the hazards have been identified and analyzed, appropriate preventive or mitigative systems, structures, components, engineered, and administrative controls are identified to ensure there is no significant risk to the public, worker, and environment. The UDS ISMS subdivides this process into four distinct steps. The first step in controlling hazards is to identify the standards and requirements associated with the work to be performed. These standards and requirements provide the necessary guidance to complete the second step that is to determine options for hazard mitigation. The hazard control options are evaluated, and the third step is to choose the best option for eliminating or mitigating the hazard. The fourth step is to establish and implement selected controls.

Identify Standards and Requirements

UDS complies with the standards and requirements identified in Attachment N of the contract with DOE. These standards and requirements are the WSS set for operations, construction and engineering, and Standards/Requirements Identification Documents covering emergency preparedness and occurrence reporting. The established WSS set is maintained to reflect the current scope of work, hazards, and expectations for the Project.

Identify Controls to Mitigate or Prevent Hazards

Controls to mitigate hazards are identified through TSR, safety bases, permits, regulatory requirements, agreements, procedures, AHAs, and training. Work planning includes a step-by-step review of how the activity will be performed, which hazards are engineered controls, administrative controls, and personnel protection equipment used to mitigate or preclude all identified hazards are documented. All aspects of the proposed controls are adequate to protect workers, other site personnel, the public, and the environment from the consequences of normal operations, accidents, or releases to the environment. The preferred order of controlling hazards is engineering (elimination, removal, substitution, etc.), administrative (procedures, plans, directives, etc.), and personal protection equipment (safety harness, respirator, etc.).

Establish Controls

Controls are also established in the facility safety basis documents to ensure that site personnel, the public, and the environment are protected from unacceptable environmental, safety, and health consequences due to accidents. Administrative ES&H controls for workers are tailored to the specific task. Details are included in procedures, work process documentation, safety basis documents, and TSRs. Engineering controls are put in place where necessary to protect workers, the site, and adjacent environment.

At the task level, additional controls may be required based on the identification of controls required through the AHA development process. Activity sequences, prerequisites, and hold points related to ES&H are documented in the activity work plan. Based on AHA, administrative points related to ES&H are documented in the activity work plan. Based on the AHA, administrative, engineering, or process controls necessary to mitigate each ES&H hazard are implemented. If site conditions change, work is suspended or stopped, hazards are reviewed, and, when needed, the existing ES&H controls are discontinued or modified with management concurrence to adapt to changed site conditions.

At the activity level, work is categorized in accordance with UDS work control procedures. Personnel qualifications and competencies are derived from the identified scope of work and associated hazards. The UDS training and qualification process ensures that needed skills for the workforce are identified and developed, and documents knowledge, experience, abilities, and competencies of the workforce for key

positions requiring qualifications and implement the requirements of DOE O 5480.20A, *Selection, Training, and Qualifications Requirements for Personnel in DOE Nuclear Facilities*.

Implement Controls

Based on work to be performed, identified hazards, and method of accomplishment, appropriate tools are utilized to define and implement necessary administrative or engineering controls. These tools include one or more of the following:

- Elimination of hazard
- Task work plans
- Activity work packages
- Procedures
- ES&H plans
- Activity hazard assessments
- Inspections and checklist
- Waste management plans
- Work instructions
- Safety basis documents
- Designs and/or design changes
- Signs and posting
- Training

Specific mechanisms and methodologies are used to tailor controls. These methods provide the means to implement identified controls and ensure that they remain in effect as long as the hazard is present. Plans and procedures include processes, including the change control process that the project team will use to implement controls at the activity level. Methods for testing and verifying controls and for ensuring that personnel are qualified to discharge their responsibilities are also required. These methods are defined in operational documents that include process descriptions, procedures, and instructions.

4.4 PERFORM WORK WITHIN CONTROLS

To perform work safely, UDS confirms the readiness of the project team, verifies that the work control documents are in place, monitors, and oversees work during execution and ensures that effective systems for managing change are in place. Each of these important steps in the safe performance of work is discussed in the following paragraphs.

Confirm Readiness

To verify that the appropriate pre-job activities have been completed effectively for task involving significant hazards, UDS will use a tailored operational readiness review process described in DOE-O-425.1C, *Startup and Restart of Nuclear Facilities* and

supporting UDS startup and restart procedures. The reviews provide evidence that the following elements are in place.

- Hazards have been adequately identified and characterized.
- Appropriate controls for the protection of workers, the public, and the environment have been identified and will be implemented during the execution of work.
- Adequate ES&H procedures, emergency response procedures, environmental documentation (NEPA) and other applicable environmental permits and plans) have been developed and will be implemented during execution of work.
- Adequate levels of trained staff and technical support are in place before the start of work.
- Safety systems are operated and maintained according to design specifications and TSRs.
- Workers are trained and qualified.

At the activity level, similar topics are addressed through a pre-job briefing before commencing work activities.

Operational Authorization

The operations authorization for UDS nuclear facilities is established through Authorization Agreements. Facility managers authorize work to be performed in their facility in accordance to the authorization basis.

Management of Change

UDS follows a structured process to assure that changes to the facility are reviewed against the governing safety basis documents and properly authorized. This process evaluates changes in design, proposed activities, work plans and procedures, and is also used to evaluate the discovery of changing conditions that may affect the safety basis. The change evaluation process encompasses the following:

- Screening of appropriate proposed changes to determine if a change evaluation is required.
- Evaluating proposed changes in design, activities, procedures, and work documentation to verify that a proposed change is within the existing safety basis and UDS is authorized to make the changes, or if DOE authorization is needed,
- Performing annual updates of nuclear facility safety basis documents.

The process used is described in the UDS *Unreviewed Safety Question Determination* procedure.

Other controls used for managing change are controlled through the UDS *Configuration Management Plan.*

Suspend/Stop Work Authority

The authority and expectation to suspend work is extended to all UDS and subcontractor employees. Without fear of reprisal, employees are encouraged to approach all work with a high degree of inquisitiveness and to satisfy themselves that it is safe to proceed. All employees are empowered to refuse to perform work that is unsafe, even if directed to do so by supervisors. Work that is suspected or proven to place workers, the public, or the environment at risk shall be suspended until it can be demonstrated that changes are made and it is safe to proceed with the work.

4.5 PROVIDE FEEDBACK AND CONTINUOUS IMPROVEMENT

UDS utilizes a variety of feedback and continuous improvement methods to evaluate on an ongoing basis the adequacy and effectiveness of the ISMS process and to assure continuous improvement. Data is collected at the program (company) and task levels.

Feedback and improvement processes may include DOE oversight; regulatory oversight; management and independent assessments; tests and evaluations; QA functions; worker involvement; safety meetings; trend analysis; and lessons learned. Specific processes for these feedback and improvement mechanisms are detailed in the appropriate QA procedures listed in Supplement A. All aspects of ISMS are subject to continuous improvement through assessment and feedback that will occur during each phase of the Project, each level of Figure 4-1, “Implementation Elements of the Five Core Functions,” depicts the safety management system core functions. Although the arrows indicate a general direction, these functions are not independent, sequential functions. They are a linked, interdependent collection of activities that may occur simultaneously. Outcomes during the accomplishment of one function may affect the other functions and, potentially, the entire system. The Project’s safety management system is accomplished by performing the core functions in an iterative fashion.

Additionally, all employees are empowered to express concerns and provide feedback to managers and supervisors. This empowerment encourages (1) new avenues for continuous improvement in the workplace and (2) safety incentives to identify improvement opportunities and effect changes to maintain and improve workplace safety.

As appropriate, ISMS performance matrices (safety indicators) are developed and the resulting data reported monthly to DOE. Safety performance measures will be tracked and trended for the entire project. Safety performance measures for the O&M phase are defined below.

To support continuous improvement, a periodic review of internal and external sources including assessments, nonconformance reports, lessons learned (both complex wide and internally), Price-Anderson Amendment Act and occurrence reports will be performed and any applicable information will be provided to appropriate company personnel.

ISM Performance Measures

ISMS performance metrics will be established at the beginning of each fiscal year. UDS will submit proposed metrics following submittal of the annual ISMS declaration submittal. Once performance metrics are approved by DOE they will be reported in the monthly project report and discussed, as necessary, at the monthly status meeting. Metrics will include, at a minimum:

- Total recordable and lost time case rates
- Summary of ORPS reportable events by category
- Worker and public exposure rates
- Worker Radiation Dose
- Estimated Radiation Doses to the Public
- Environmental

UDS will track, trend, and report additional lagging and leading performance measures to ensure that safety performance is properly measured. These additional measures shall be approved annually by DOE and may vary from year to year based on the scope of anticipated project activities.

END OF SECTION

5 MAINTAINING AND IMPROVING INTEGRATED SAFETY MANAGEMENT

The Project continually strives to maintain and improve implementation of its established ISMS program. Maintenance and the ongoing improvement of the ISMS program will ensure that work performed by UDS, including its subcontractors, continues to be conducted in a manner that protects the health and safety of the worker, the public, and the environment.

Self-assessment is the process by which UDS will measure performance in relationship to the ISMS standards and will identify areas needing improvement. Management assessment and independent assessment programs integrate QA requirements with the ISMS to provide feedback and identify areas requiring improvement. Independent assessments may include the option of having independent third party surveillances from outside organizations. The quality assurance manager has the primary responsibility for the implementation of independent assessments as identified in UDS-U-QAP-0012, *Independent Assessments*.

The PQAP*,* DUF6-UDS-PLN-003, and its applicable implementing procedures (UDS-U-QAP-0012 *Independent Assessments* and UDS-U-QAP-0013 *Management Assessments)* are the UDS documents that describe the assessment process. Consistent with the PQAP and implementing procedures, the QA manager /designee coordinates the independent assessment schedule and the compliance manager/designee coordinates the management assessment schedule. Both the ISMS functions and principles are integrated, as appropriate, into each assessment.

The PQAP*,* DUF6-UDS-PLN-003, and its applicable implementing procedures addressing condition and nonconformance reporting, lessons learned, and trend analysis establishes the methodology for reporting, tracking, trending, and analyzing performance. The procedure for condition and nonconformance reporting is utilized to document external (including DOE or other regulators) oversight and enforcement and any resulting corrective actions. Trending data will be obtained from the corrective actions tracking system and other sources. The compliance manager/designee will analyze and trend data and provide recommendations for improvement of ISMS practices to applicable UDS senior managers.

The UDS ES&H/security manager and the UDS compliance manager have the primary responsibility for the development, maintenance, and implementation for UDS procedures that tract the implementation of the feedback and continuous improvement process. These procedures include UDS-U-QAP-0005, *Condition Reporting;* UDS-U-QAP-0013, *Management Assessments;* UDS-U-QAP-0017, *Lessons Learned*; and UDS-U-QAP-0019, *Trending*.

Project management encourages the review of positive and negative information, issues, and problems available through internal and external sources with the goal of project problem prevention and continuous improvement. Employees are empowered

to use the UDS condition reporting system to not only report safety problems but also lessons learned, employee suggestions, and conditions or situations, including worker suggestions that need management review for program improvements.

Annually, UDS will review and revise, as appropriate, established ISMS-related performance goals and associated measures.

END OF SECTION

6 SUPPORTING INFORMATION

6.1 REFERENCED PROCEDURES AND INSTRUCTIONS

6.1.1 Requirements References

Identifier	Title
DOE O 414.1C	*Quality Assurance*
DOE O 440.1A	*Worker Protection Management for DOE Federal and Contractor Employees*
DOE O 450.1	*Environmental Protection Program*
48 CFR 970.5223-1	*Integration of environment, safety, and health into work planning and execution*
10 CFR 830	*Nuclear Safety Management*
10 CFR 851	*Worker Safety and Health Program*

6.1.2 Source References

Identifier	Title
DOE O 413.3	*Program and Project Management for the Acquisition of Capital Assets*
DOE O 425.1C	*Startup and Restart of Nuclear Facilities*
DOE O 5480.19	*Conduct of Operations Requirements for DOE Facilities*
DOE O 5480.20A	*Selection, Training and Qualification Requirements for Personnel in DOE Nuclear Facilities*
DOE P 450.3	*Authorizing the Use of the Necessary and Sufficient Process for Standards-Based Environment, Safety and Health Management*
DOE N 450.3	*Use of the Necessary and Sufficient Process*
DOE M 450.3-1	*The DOE Closure Process for Necessary and Sufficient Sets of Standards*
DOE G 450.3-1	*Documentation for Work Smart Standards Application: Characteristics and Considerations*

Identifier	Title
DOE G 450.3-2	*Attributes of Effective Implementation*
DOE G 450.3-3	*Tailoring for Integrated Safety Management Applications*
DOE P 450.4	*Safety Management System Policy*
DOE G 450.4-1B	*Integrated Safety Management Guide for use with Safety Management System Policies*
DOE P 450.7	*DOE ES&H Goals*
DOE M 411.1-1C	*Safety Management Functions, Responsibilities, and Authorities Manual*
DOE-STD-1027-92	*Hazard Categorization and Accident Analysis Techniques for Compliance with DOE Order 5480.23, Nuclear Safety Analysis Reports*
DOE-STD-3009-94	*Preparation Guide for U.S. Department of Energy Nonreactor Nuclear Facility Documented Safety Analysis*
29 CFR 1910.119	*Process Safety Management of Highly Hazardous Chemicals*
40 CFR 68	*Chemical Accident Prevention Provisions*
DUF6-UDS-PLN-001	*Project Management Plan*
DUF6-UDS-PLN-002	*Regulatory and Permitting Management Plan*
DUF6-UDS-PLN-003	*Project Quality Assurance Plan*
DUF6-UDS-PLN-005	*Waste Management Plan*
DUF6-UDS-PLN-007	*Radiation Protection Plan*
DUF6-UDS-PLN-011	*Cylinder Surveillance and Maintenance Plan*
DUF6-UDS-PLN-014	*Conversion Facilities Operations and Maintenance Plan*
DUF6-UDS-PLN-015	*Document Management Plan*
DUF6-UDS-PLN-019	*Risk Management Plan*
DUF6-UDS-PLN-023	*Configuration Management Plan*
DUF6-UDS-PLN-024	*Fire Protection Program Description*

Identifier	Title
DUF6-UDS-PLN-026	*Business Management Plan*
DUF6-UDS-PLN-027	*Training Plan*
DUF6-UDS-PLN-029	*Safety Basis Documentation Plan*
DUF6-UDS-PLN-031	*Pollution Prevention and Waste Minimization Plan*
DUF6-UDS-PLN-037	*Safety Management Program Descriptions for the Uranium Disposition Services, LLC, DUF6 Conversion Project*
DUF6-UDS-PLN-044	*Paducah Emergency Management Plan*
DUF6-UDS-PLN-045	*Portsmouth Emergency Management Plan*
DUF6-UDS-PLN-052	*Cylinder Yard Transition Plan*
DUF6-UDS-PLN-053	*Operations Environmental Management Plan*
DUF6-UDS-PLN-074	*Worker Safety and Health Program*
DUF6-G-RGN-006	*Work Smart Standards Final Report*
UDS-U-DMP-0001	*Document Control Program*
UDS-U-DMP-0002	*Records Management Program*
UDS-U-GFP-0108	*Control of Work*
UDS-HRP-001	*HR Policy Manual*
UDS-U-QAP-0003	*Procedure System*
UDS-U-QAP-0016	*Occurrence Notification and Reporting*
UDS-U-QAP-0017	*Lessons Learned*
UDS-SHP-101	*Safety Concerns*
UDS-X-SHP-0303	*Portsmouth Emergency Protective Actions*
UDS-C-SHP-0304	*Paducah Emergency Protective Actions*
UDS-U-SHP-0601	*Hazard Communication Program*
UDS-U-NSP-0002	*Unreviewed Safety Questions*

REFERENCED ATTACHMENTS/SUPPLEMENTS

Supplement A	*Implementing Document Matrix – Operations and Maintenance*
Supplement B	*Environmental, Safety, and Health Policy*

Supplement A

Implementing Document Matrix – Operations and Maintenance

Supplement A

Implementing Document Matrix- Operations and Maintenance

ISMS Functions	Implementing Mechanism
Define the scope of work	*DOE Contract DE-AC05-02OR22717, Section C*
	UDS Subcontract – EnergySolutions, DUF-001
	UDS Subcontract – Burns and Roe Enterprises Incorporated, DUF-102
	UDS Subcontract – AREVA AP Inc. DUF-103
	Project Management Plan, DUF6-UDS-PLN-001
	Cylinder Surveillance and Maintenance Plan, DUF6-UDS-PLN-011
	Conversion Facilities Operations and Maintenance Plan, DUF6-UDS-PLN-014
	Safety Basis Documentation Plan, DUF6-UDS-PLN-029
	Portsmouth Systems Requirements Document, DUF6-UDS-SRD-PORT
	Paducah Systems Requirements Document, DUF6-UDS-SRD-PADU
	Baseline Change Control, UDS-PCP-012
Identify and analyze hazards associated with the work	*Radiation Protection Plan,* DUF6-UDS-PLN-007
	Control of Work, UDS-U-GFP-0108
	Safety Basis Documentation Plan, DUF6-UDS-PLN-029
	Sampling and Analysis Plan, DUF6-UDS-PLN-047
	Portsmouth Systems Requirements Document, DUF6-UDS-SRD-PORT
	Paducah Systems Requirements Document, DUF6-UDS-SRD-PADU
	Preliminary Hazards Analysis Report, DUF6-UDS-PHA-PORT
	Preliminary Hazards Analysis Report, DUF6-UDS-PHA-PADU
	Paducah Conversion Facility Documented Safety Analysis, DUF6-C-DSA-001
	Portsmouth Conversion Facility Documented Safety Analysis, DUF6-X-DSA-001
	Paducah Cylinder Storage Yards Documented Safety Analysis, DUF6-C-DSA-002
	Portsmouth Cylinder Storage Yards Documented Safety Analysis, DUF6-X-DSA-002
	Portsmouth Conceptual Design Report, DUF6-UDS-CDR-PORT

ISMS Functions	Implementing Mechanism
	Paducah Conceptual Design Report, DUF6-UDS-CDR-PADU
	Portsmouth Cylinder Storage Yard Hazard Analysis, DUF6-X-HAZ-001
	Paducah Cylinder Storage Yard Hazard Analysis, DUF6-C-HAZ-001
	Emergency Planning Hazards Assessment for the Paducah Cylinder Yards, DUF6-C-G-EMH-001
	Emergency Planning Hazards Assessment for the X745C, X745E, and X745G Cylinder Yards – Portsmouth, OH, DUF6-X-G-EMH-001
	Design Requirements for Natural Phenomena Hazards Mitigation, DUF6-C-G-NPH-001
	Design Requirements for Natural Phenomena Hazards Mitigation, DUF6-X-G-NPH-001
	Work Smart Standards Final Report, DUF6-G-RGN-006
	Fire Hazards Analysis, UDS-SHP-806
	Fire Protection Engineering Assessment Procedure, UDS-SHP-808
	Waste Characterization, UDS-U-WMP-1001
	Environmental Impact Statement for the DUF6 Conversion Project, EIS No. 040279 (Portsmouth) and EIS No. 040280 (Paducah)
Develop and implement controls	*Project Management Plan,* DUF6-UDS-PLN-001
	Regulatory and Permitting Management Plan, DUF6-UDS-PLN-002
	Project Quality Assurance Plan, DUF6-UDS-PLN-003
	Radiation Protection Plan, DUF6-UDS-PLN-007
	Cylinder Surveillance and Maintenance Plan, DUF6-UDS-PLN-011
	Document Management Plan, DUF6-UDS-PLN-015
	Risk Management Plan, DUF6-UDS-PLN-019
	Configuration Management Plan, DUF6-UDS-PLN-023
	UDS Fire Protection Program Description, DUF6-UDS-PLN-024
	Business Management Plan, DUF6-UDS-PLN-026
	Training Plan, DUF6-UDS-PLN-027
	Safety Basis Documentation Plan, DUF6-UDS-PLN-029
	Pollution Prevention and Waste Minimization Plan, DUF6-UDS-PLN-031
	Safety Management Program Descriptions for the Uranium Disposition Services, LLC, DUF6 Conversion Project, DUF6-UDS-PLN-037
	Paducah Emergency Management Plan, DUF6-UDS-PLN-044

ISMS Functions	Implementing Mechanism
	Portsmouth Emergency Management Plan, DUF6-UDS-PLN-045
	Paducah Facility/Employee Emergency Action Plan, DUF6-UDS-PLN-048
	Operations Environmental Management Plan, DUF6-UDS-PLN-053
	Paducah Spill Prevention Control and Countermeasure Plan, DUF6-PLN-054
	Worker Safety and Health Plan, DUF6-UDS-PLN-074
	Work Smart Standards Final Report, DUF6-G-RGN-006
	Portsmouth Cylinder Yard Surveillance & Maintenance Conduct of Operations Applicability Matrix, DUF6-UDS-COO-001
	Paducah Cylinder Yard Surveillance & Maintenance Conduct of Operations Applicability Matrix, DUF6-UDS-COO-002
	Technical Safety Requirements for the DOE 745 UF6 Cylinder Storage Yards – Paducah KY, UDS-C-TSR-001
	Technical Safety Requirements for the DOE X-745C, X-745E, and X-745G-1 UF6 Cylinder Storage Yards – Piketon, OH, UDS-X-TSR-001
	Technical Safety Requirements for the DOE Conversion Facilities – Paducah KY, UDS-C-TSR-002
	Technical Safety Requirements for the DOE Conversion Facilities – Piketon, OH, UDS-X-TSR-002
	Maintenance of the UDS Radiation Protection Program, UDS-RPP-001
	UDS RADCON Management and Administrative Requirements, UDS-RPP-002
	Occupational Dose Limits, UDS-RPP-003
	Skin Dose Limits, UDS-RPP-004
	Embryo/Fetus Protection, UDS-RPP-005
	Planned Special Exposures, UDS-RPP-006
	Monitoring in the Workplace, UDS-RPP-007
	External Dosimetry, UDS-RPP-008
	Internal Dosimetry, UDS-RPP-009
	Airborne Radioactivity Monitoring, UDS-RPP-010
	Control of Work, UDS-U-GFP-0108
	Hazard Assessment, UDS-U-SHP-0211
	Routine Environmental Reporting Requirements, UDS-SHP-701

ISMS Functions	Implementing Mechanism
	Fire Extinguishers, Inspection, and Maintenance, UDS-SHP-804
	PM & Inspection Program for Freightliner Truck – Paducah UF6 Cylinder Program, UDS-C-CYP-2422
	Paducah Preventative Maintenance & Inspection Program for Caterpillar Model TH103 Telehandler, UDS-C-CYP-2423
	Portsmouth PM & Inspection Program for UF6 cylinder Handling Forklifts, UDS-X-CYP-2519
	Portsmouth UF6 Cylinder Surveillance and Maintenance Program, UDS-X-CYP-2520
	Access Control For the Paducah and Portsmouth DOE UF6 Cylinder Storage Yards, UDS-U-CYP-0001
	DOE UF6 Cylinder Storage Yards Combustible Material Control Program, UDS-U-CYP-0002
	Decontamination of Non-Fissile UF6 Cylinder Valves & Plugs, UDS-U-CYP-0008
	PM & Inspection Program for the AW Model NCH-35 Cylinder Handler, UDS-U-CYP-0012
	Measurement of UF6 Cylinder Wall Thickness Manual UT Methods, UDS-PO-2503
	Safety Basis Documentation, UDS-U-NSP-0001
	Unreviewed Safety Questions, UDS-U-NSP-0002
	Nuclear Criticality Safety Program, UDS-U-NSP-0003
	Procurement Policy and Procedure, FANP 1212-12
	Project Control System Description, UDS-PCG-001
	Work Definition, UDS-PCP-001
	Planning and Organization, UDS-PCP-002
	Scheduling, UDS-PCP-003
	Budgeting, UDS-PCP-004
	Variance Analysis and Estimate at Completion, UDS-PCP-007
	Material and Subcontract Management, UDS-PCP-010
Perform work within control*s*	*Shift Conduct,* UDS-U-GFP-0003
	Control of Work, UDS-U-GFP-0108
	Receipt and Transportation of Radioactive Materials, UDS-RPP-011
	Radiological Entry Control, UDS-RPP-012
	Posting and Labeling, UDS-RPP-013

ISMS Functions	Implementing Mechanism
	Radiation Safety Training, UDS-RPP-016
	ALARA Design and Review, UDS-RPP-017
	Contamination Control and Monitoring, UDS-RPP-018
	Radioactive Source Control, UDS-RPP-019
	General Requirements, UDS-SHP-102
	Excavation/Penetration Permit, UDS-SHP-202
	Hoisting and Rigging, UDS-SHP-203
	Fall Protection, UDS-SHP-204
	Emergency Showers and Eyewash, UDS-SHP-205
	Aerial Lifts and Elevating Work Platforms, UDS-SHP-206
	Material Handling, Storage, and Disposal, UDS-SHP-207
	Safety Signs, Color Codes, Barriers, and Defective Tagging, UDS-U-SHP-0208
	Personal Protective Equipment, UDS-SHP-210
	Hazard Assessment, UDS-U-SHP-0211
	Powered Industrial Trucks (Fork Lifts), UDS-SHP-213
	Paducah Lockout/Tagout, UDS-C-SHP-0214
	Electrical Safety Program, UDS-U-SHP-0214
	Portsmouth Lockout/Tagout, UDS-X-SHP-0216
	Occupational Medicine, UDS-U-SHP-0501
	Hearing Conservation Program, UDS-U-SHP-0502
	Bloodborne Pathogens Program, UDS-SHP-503
	Respiratory Protection Program, UDS-U-SHP-0504
	Exposure Assessments, UDS-U-SHP-0505
	Ergonomics, UDS-SHP-508
	Embryo Fetus/Reproductive Health, UDS-SHP-510
	Biological Monitoring for Chemicals, UDS-SHP-511
	Confined Space Program, UDS-U-SHP-0512
	Temperature Extremes, UDS-SHP-514
	Hazard Communication Program, UDS-U-SHP-0601
	Hot Work, UDS-SHP-801
	Fire Evacuation/Alarms/Good Housekeeping, UDS-SHP-803
	Fire Extinguishers, Inspections and Maintenance, UDS-SHP-804
	Fire Hazards Analysis, UDS-SHP-806

ISMS Functions	Implementing Mechanism
	Fire Protection Engineering Assessment Procedure, UDS-SHP-808
	Control of Combustion and Ignition Sources, UDS-SHP-810
	Document Control, UDS-U-DMP-0001
	Records Management, UDS-U-DMP-0002
	Numbering of Documents, UDS-U-DMP-0006
	Electronic Workflow Business Rules, UDS-U-DMP-0007
	Handling, Transportation, and Inspection of DOE 48-Inch Diameter UF6 Cylinders, UDS-C-CYP-2400
	In-Storage Inspection of 12", 30", 48" and CV DOE UF6 Cylinders at Paducah, UDS-C-CYP-2402
	Handling, Transportation, and Inspection of DOE 30" Diameter UF6 Cylinders at Paducah, UDS-C-CYP-2407
	Handling, Transportation, and Inspection of 12-Inch Diameter UF6 Cylinders at Paducah, UDS-C-CYP-2413
	Measurement of UF6 Cylinder Wall Thickness at Paducah-Digital UT Methods, UDS-PA-2421
	Handling, Transportation, & Inspection of CV-12 & CV-19 UF6 Cylinders at Paducah, UDS-C-CYP-2424
	Field Replacement and Repair of Non-Fissile UF6 Cylinder Valves and Plugs, UDS-U-CYP-0004
	Fabrication and Installation of Replacement Identification Tags and Reattachment of Nameplates on UF6 Cylinders, UDS-U-CYP-0006
	Decontamination of Non-Fissile UF6 Cylinder Valves and Plugs, UDS-U-CYP-0008
	Preventative Maintenance & Inspection Program for AW Model NCH-35 Cylinder Handler, UDS-U-CYP-0012
	Handling, Transportation, & Inspection of DOE 48" Diameter DUF6 Cylinders, UDS-X-CYP-2501
	In-Storage Inspection Of 30"and 48" DOE UF6 Cylinders, UDS-X-CYP-2502
	Measurement of UF6 Cylinder Wall Thickness – Manual Ultrasonic Test Methods, UDS-PO-2503
	Handling, Transportation, & Inspection of DOE 30" UF6 Cylinders, UDS-X-CYP-2504
	Cleaning & Painting Cylinder Skirts & Heads, UDS-PO-2506
	Inspection and Operation of UF6 Cylinder Stacker, UDS-X-CYP-2513
	UDS Training Plan, DUF6-UDS-PLN-027
	Training Procedure, UDS-U-TRN-0001
	Procedure System, UDS-U-QAP-0003
	Graded Approach, UDS-QAP-004
	Condition Reporting, UDS-U-QAP-0005
	Supplier Quality Program Evaluation, UDS-U-QAP-0014

ISMS Functions	Implementing Mechanism
	Stop Work, UDS-QAP-022
Provide feedback on adequacy of controls and continue to improve safety management	*Independent Assessments,* UDS-U-QAP-0012
	Management Assessments, UDS-U-QAP-0013
	Occurrence Notification and Reporting, UDS-U-QAP-0016
	Lessons Learned, UDS-U-QAP-0017
	Root Cause Analysis, UDS-QAP-018
	Trend Analysis, UDS-U-QAP-0019
	Radiological Records Management, UDS-RPP-014
	Reports to Individuals, UDS-RPP-015
	Accidents and Emergencies, UDS-RPP-020
	Safety Concerns, UDS-SHP-101
	Safety Surveillances, UDS-SHP-103
	PAAA Reporting Procedure, UDS-U-QAP-0015
	CAIRS Reporting Procedure, UDS-SHP-104
	System Surveillance, UDS-SDP-011
	Control of Work, UDS-U-GFP-0108
	Reporting Incidents of Security Concerns, UDS-U-SSP-0001

NOTE: *The most current list of document titles and numbers are maintained/available in the Master Index (electronic document management system – Documentum). This list of document titles and numbers identified in Supplement A is a representation of ISMS implementing documents, but is not intended to be an all-inclusive list.*

Supplement B

Environmental, Safety, and Health Policy

Uranium Disposition Services, LLC
Environmental, Safety, and Health Policy

Our most valuable asset is our people; as such, they must be protected. Attaining our objective of world-class Environmental, Safety, and Health performance requires more than regulatory compliance alone.

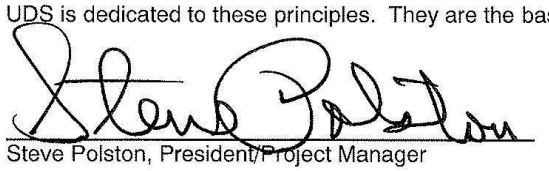
UDS is committed to conducting our work scope in a way that protects people, property, and communities. We believe in three fundamental principles of safety:

1. All accidents, injuries, and occupational illnesses are preventable.
2. If a work task cannot be done safely, we will not do it.
3. Follow the procedures or stop the job.

To put these principles into practice, every employee will receive the appropriate training, equipment, and other resources necessary to complete assigned tasks in a safe and efficient manner. The following principles form the foundation for our approach to Environmental, Safety, and Health:

- UDS is totally committed to the Integrated Safety Management System (ISMS) that fosters continuous improvement through worker involvement and feedback.
- UDS is committed to Zero Accident performance.
- UDS is committed to providing a healthy and safe work environment. UDS will promote and strengthen a corporate culture where safety and environmental protection are of paramount importance.
- UDS is committed to pollution prevention and waste minimization.
- UDS integrates safety into all phases of work.
- Employees are encouraged to take responsibility for their own personal safety and for the safety of others.
- UDS believes that NO job should jeopardize safety or impact the environment.
- Lines of authority and responsibility will be clearly defined and communicated to everyone to ensure safety at all organizational levels.
- UDS management will employ contractors who are committed to safety and will hold them to the same standards as ourselves.
- No unsafe act will be tolerated! Safety is a condition for employment and for maintaining a contract with UDS.
- Management shall investigate accidents and incidents by involving affected employees, then sharing and institutionalizing what is learned.
- All personnel will possess the knowledge, training, experience, and/or skills necessary to perform safely their assigned duties.
- DOE Orders, OSHA Standards, and other regulations and contractual requirements are the minimum level of protection.

UDS is dedicated to these principles. They are the basis of UDS's "Safety First" culture.



Steve Polston, President/Project Manager

6/22/07
Date